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EXAMINER

BRAHAN, THOMAS J

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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1. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the two parallel strut members of claim 6 must be shown, or the feature must be canceled from the claims. No new matter may be entered.

2. If corrected drawing sheets are submitted to overcome the above objection, they must be in compliance with 37 CFR 1.121(d) and are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

3. If the changes are not accepted by the examiner, because for example introducing new matter, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 5, 8, 24-28 and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is unclear as to how coil (42) and adjustment strap (44) function. Page 4, lines 7-13 recite:

Figure 6 shows the raising of strut member 20. Through the winding of the hoisting cable on hoist 36, the strut member 20 is straightened independently and guys front anchoring rod 40. An adjustment coil 42, with which an adjustment strap 44 is connected, is positioned on main boom 12. Through the winding of an adjustment cable 46 off adjustment coil 42, and the simultaneous winding up of hoist 36, the upper adjustment strap 48 is drawn to the tip of the strut member, until a pin 50 at

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the upper adjustment strap 48 engages in a hook 52 (compare Figure 7 and particularly Detail A on Figure 7).

How can the adjustment coil (42) be connected to both the adjustment strap (44) and the adjustment cable (46) as recited above? Why does the length of the adjustment cable (46) appear to be the same in figures 5-7 as the length of the adjustment strap (44) varies? It appears from the drawings that only the strap (44) is wound from the coil. It is unclear as to how the applicant is considering the pin (50) as situated upon one of the strap (44) and the strut member (20), as recited in new claim 24, when the disclosure has it on a different element, a sheave of the adjustment strap (48).

6. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.

7. Claims 1-6, 8 and 21-33 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example:

a. In the last two lines of claim 1, the limitation "with the main boom parts (14, 16) extended either substantially parallel or at a swivel angle with respect to one another" is not fully understood. There is no disclosure of having the boom parts 14 and 16 parallel to each other, only the struts are discussed as being positioned parallel, see page 2, line 14. Note that the pertinent definition of parallel for lines is "two or more straight coplanar lines that do not intersect", see www.dictionary.com. The applicant's two boom sections are colinear at times, but not parallel. As the limitation recites alternative arrangements for the structures, it is unclear as to whether the boom sections are being claimed as moving to both the parallel orientation and the swivel angle orientation or just to one of the two recited positions.

b. In claim 3, the term "said additional swivel point" lacks antecedent basis within the claims. Note that claim 2 uses the term "additional swivel joint".

c. Claim 8 introduces another boom segment, "a bent forward segment of the main boom" which appears to be a redundant inclusion of boom segment (16).

d. In claim 29, it is unclear as to how the applicant is considering the lower boom part as raised first and then the upper boom part is raised. The distal end of the lower boom part is connected to the proximal end of the upper boom part. As the distal end of the lower boom is raised the adjacent proximal end of the upper boom is raised at the same time.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Tesch. Tesch shows a mobile crane, comprising;

a long main boom (13) comprising two boom parts (15, 17) pivotally linked together (at 23),

a swivel point in (23) at which said two boom parts (15, 17) are pivotally linked, and

the two boom parts (15, 17) being structured and arranged with respect to one another such that when the main boom is initially raised from a flat, extended position along the ground (the lowermost operative position; note the term "initially raised" is a relative term), the boom parts (15, 17) can bend with respect to one another (if bolts 25 are removed; note that as these are not method claims, the reference need only have the recited structural limitations, it does not have to use the same method step or even have a reason to use the recited step), and

as the main boom (13) is raised, an upper one (17) of the boom parts (15, 17) swivels with respect to a lower one (15) of the boom parts (15, 17) to position the main boom (13) in extended or partially-extended final erection position (see figure 3; note the erection position does not have to be the operative position) with the boom parts (15, 17) extended either substantially parallel or at a swivel angle with respect to one another (at a swivel angle).

A strut member (42) is positioned at an additional swivel joint (51) on one of the boom parts (17), as recited in claim 2. A fold-out support (45) is coupled to the strut member (42) at a point (47) remote from the additional swivel point (51) and supports the strut member at an angle at times that can be considered as raising the main boom, as recited in claim 3. Line (45) is a guy arranged on a coil (drum 31), as recited in claim 4.

11. Claims 1-4, 6, 21-23 and 33, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Mott. Mott shows a mobile crane, comprising;

a long main boom comprising two boom parts (26, 28) pivotally linked together (at 34),

a swivel point in (34) at which said two boom parts (26, 28) are pivotally linked, and

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the two boom parts (26, 28) being structured and arranged with respect to one another such that when the main boom is initially raised from a flat, extended position along the ground (the position shown in figure 2; note the term "initially raised" does not have any patentable weight unless used in method type claims), the boom parts (26, 28) can bend with respect to one another (as shown in figures 3 or 5), and

as the main boom is raised, an upper one (26) of the boom parts swivels with respect to a lower one (28) of the boom parts to position the main boom in extended or partially-extended final erection position (see figure 6; note the erection position does not have to be the operative position) with the boom parts (26, 28) extended either substantially parallel or at a swivel angle with respect to one another (at a swivel angle).

A strut member (16 or 64) is positioned at an additional swivel joint on one of the boom parts (26), as recited in claims 2, 23 and 33. Note that no structure or function is specified for the strut member within the claims. A fold-out support (38) is coupled (indirectly) to the strut member (64) at a point remote from the additional swivel point and supports the strut member at an angle at times that can be considered as raising the main boom, as recited in claim 3. Line (84) is a guy arranged on a coil (drum), as recited in claim 4. Mott has two strut members (64 and 66; see figure 8) arranged parallel to each other, as recited in claim 6. Mott has hoisting cable (80) connected to the guy (84), the guy (84) is attached near to a tip of one of the boom part, the distal tip of boom part (26) or the proximal tip of boom part (28), as recited in claims 21 and 22.

12. Claims 1-3, 5, 6, 29 and 33, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Casavant et al. Casavant et al shows a mobile crane, comprising;

a long main boom comprising two boom parts (20, 30) pivotally linked together,

a swivel point in (25) at which said two boom parts are pivotally linked, and

the two boom parts being structured and arranged with respect to one another such that when the main boom is initially raised from a flat, extended position along the ground, the boom parts can bend with respect to one another, and

as the main boom is raised, an upper one (30) of the boom parts swivels with respect to a lower one (20) of the boom parts to position the main boom in extended or partially-extended final erection position with the boom parts () extended either substantially parallel or at a swivel angle with respect to one another.

Casavant et al has a strut member (one of the lower strut members 61 or the unlabeled strut members above them; see figure 3) positioned to swivel at additional swivel joints, as recited in claims 2 and 33. When considering claim 3, one of the lower strut members (61) is a fold out support. An adjustment coil (a winch drum on the boom butt; see column 5, lines 20-22) is mounted on the main boom with a strap (cable 87) which extends to a tip of the strut member (61), as recited in claim 5. There are

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two parallel strut members (61), see figure 4, as recited in claim 6. The upper and lower boom parts are raised in a manner similar to applicant's boom parts, as claim 29 is best understood.

13. Claims 1, 2, 4, 5, 8, 21, 22, 29, 30 and 33, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto et al in view of Morrow et al. Yamamoto et al shows a mobile crane, comprising a long main boom comprising two boom parts (4, 11) pivotally linked together and a swivel point at which said two boom parts are pivotally linked. It does not state that the boom is constructed to be initially raised from a flat, extended position with the boom parts extending along the ground. Figure 5 of Morrow et al shows a similar boom in the initial stages of being erected, see column 1, lines 56 and 57 and column 3, lines 21-23. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to assemble and erect the boom of Yamamoto et al by assembling the boom parts (4 and 11) supported end-to-end on the ground, as to have the ground supporting them during assembly, as taught by Morrow et al. Yamamoto et al has at least one strut member (at 13) with an additional swivel joint, as recited in claims 2 and 33. Yamamoto et al has a coil (8 or 25) with a guy (14 or 20/23), as recited in claim 4. One of the coils (25) is mounted on the boom to raise the boom, as recited in claims 5 and 8. The hoisting cable (14) of the hoist (8) is connected to the guy (20/23) of coil (25) indirectly, as recited in claim 21, with the guy (20/23) near a tip of the upper boom part (11), as recited in claim 22. The boom parts of Yamamoto et al would move similar to applicant's boom parts, as claim 29 is best understood. Being lighter, the strut member(s) would raise before the boom members, as recited in claim 30, as best understood.

14. Claims 3, 6, 23, 24 and 31, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto et al in view of Morrow et al, as applied above to claim 5, and further in view of Sterner et al. Yamamoto et al, as modified, shows a mobile crane, but varies from claim 3 by not showing the details of the upper mast structure (13) as to have its strut members folding at additional swivel joints. Sterner et al shows a similar upper mast structure with folding strut members (masts 31-34) which collapse to permit the upper boom part (the luffing jib) to be raised to angle of 72 degrees above horizontal, see column 2, lines 7-10. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the upper mast structure (13) of Yamamoto et al by forming it with an arrangement of folding strut members, to allow the upper boom part (11) to be raised to higher angles, as taught by Sterner et al. The strut members of Sterner et al include parallel members, see figure 6, as recited in claim 6, and with the strut member "additional" swivel joints on the upper boom member, as recited in claim 23. The folding strut arrangement of Sterner et al includes a hook and connection (52/70) as recited in claim 24, and has an anchoring rod (48) coupled to a strut member (32) and coupled to an end of the boom part (the upper boom part; note the term coupled does not require direction attachment), as recited in claim 31.


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15. Claims 25-28 and 32 avoid the art of record, and would be allowable if rewritten in independent form including all the limitations of the base claim one and the intervening claims, and amended to overcome the rejections under 35 U.S.C. 112.

16. Applicant's argues in the amendment filed May 24, 2006, that the references used in the previous rejections did not "the successful erection of a main boom" as now recited in the amended claims. However the claims are apparatus claims, not method claims, as to only require the structural limitations put forth in the claims. The remaining arguments have been fully considered, but are deemed moot in view of the above new rejections. The amendment necessitated the new grounds, accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Brahan whose telephone number is (571) 272-6921. The examiner's supervisor, Ms. Katherine Matecki, can be reached at (571) 272-6951. The new fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Thomas J. Brahan
Primary Examiner
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